

# **Decoupled Payments and Agricultural Policy Reform in Korea**

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# **Decoupled Payments and Agricultural Policy Reform in Korea**

## **Abstract**

Abolishing a nearly 50-year-old policy for rice price support, Korea adopted a new direct payment program in 2005. Making the transition to decoupled income payments has been governed by the need for operative and effective income safety nets and the WTO disciplines on domestic support. The program aims to deal with over-supply of rice while guarding against the threat of income insecurity. Integrated into a target price mechanism, the fixed and variable payments compensate part of farm income loss arising from adverse market conditions. Besides, the government launched a public stockholding measure to ensure food security. A review of previous studies highlights the fixed payment has no or at most minimal effects on production while the variable payment carries a fairly large effect on production. The share of direct payments in agricultural budget accounts for only 8 percent in 2004 and thus the Korean government envisions greater use of decoupled income support.

**Keywords:** decoupled payments, direct payments, policy reform, rice, Korea

## 1. Introduction

Since the 1980s almost all developed and developing countries have carried out agricultural policy reforms (FAO 2005). Increasing pressure on government policies arises from the common observation that agricultural support causes surplus production that needs high budgetary costs and sometimes trade distortions. In this sense, a main debate on agricultural policy reform at the national and international levels is if agricultural support is forged to have a minimal bearing on trade or production.

The Uruguay Round Agreement on Agriculture (URAA) in 1994 recognized the reform process as substantial reductions in support and protection (Article 20), and set up specific rules on policy instruments. The URAA's disciplines on domestic support depend on to what extent it spawns market and trade distortions. The Amber Box refers to most trade distorting subsidies that countries have to reduce their supplies. Output payments linked to production-limiting programs are classified as the Blue Box. The Blue Box payments are without limit. Finally, the Green Box includes fixed direct payments having no or at most minimal effects on trade and production. The Green Box payments can be increased without limit.

The reform process embodying a shift from more distorting to less distorting support or transition from the Amber Box to the Green Box equals to decoupling. Decoupling is to break the link between policy measures and trade or production. OECD (2005a) defines a decoupled measure as such would neither have any current condition associated with production or production factors nor create any expectation that a farmer's production decision today could influence on tomorrow's payments. OECD (2005b) clarifies its definition of a decoupled measure as ex post empirical in contrast to the URAA's legal definition.

The URAA has contributed to policy reforms in many countries. For example, flooding out large farm outlays and resulting imbalance in certain commodity markets, the European Union's Common Agricultural Policy (CAP) reforms were agreed to rein in over-production and prepare trade liberalization. The 1992 CAP reform introduced compensatory direct payments against decreases in intervention prices, a first stepping-stone on the path to decoupled support from particular crops. The following reforms through Agenda 2000 and 2003 Mid-Term Review expanded and perpetuated the decoupling process. A highlight of the 2003 reform was to invent the Single Farm Payments (SFPs) delinking support from crops and prices while linking it to wanted standards for environment, food safety and animal welfare.

As for the United States, the 1996 Farm Bill (FB) made a bold change into a market-

oriented support mechanism where farmers could freely decide on what to produce based on market signals. Since the government assigned predetermined direct payments over the implementation period, Agricultural Marketing Transition Act (AMTA) payments were considered as fully decoupled. However, the 2002 FB reversed from decoupling by adding Counter-Cyclical Payments (CCPs) that were tied to price. The decoupled AMTA payments were embedded in 'Direct Payments' under the 2002 FB.

Following the suit set up by the European Union and the United States in one sense and taking into account of the development in the WTO rules Korea has increasingly adopted direct payment mechanisms and the process of decoupling. This article is to review such a policy reform in the country highlighting policy transition to decoupled income support. Detailed discussion addresses the direct payment scheme for rice and its implementation issues. This paper also summarizes the likely impacts of the rice scheme by examining previous empirical studies.

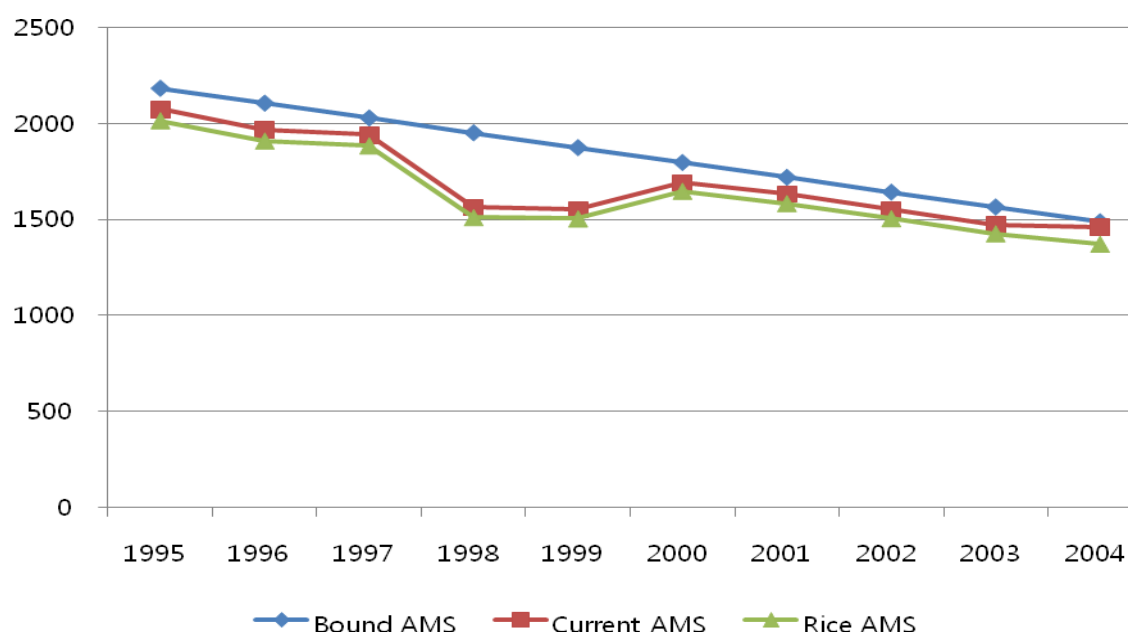
## **2. Evolution of Agricultural Policy Reform**

Agricultural policy reform in Korea has been largely driven by external forces including the disciplines on domestic support by the URAA and rapid growth in farm imports spurred by dismantling trade barriers. Korea is one of few countries in the WTO membership which is actually and substantially bound by reduction obligations in the Aggregate Measure of Support (AMS) and thus have had to adjust its rice support system.

As seen in Figure 1, the URAA obligates the country to reduce Amber Box support from 2,183 to 1,490 billion won over the 1995~2004 period. What's required was a gradual cut in support. During the same period, the current total AMS averaged to 92 percent of the final bound total AMS.

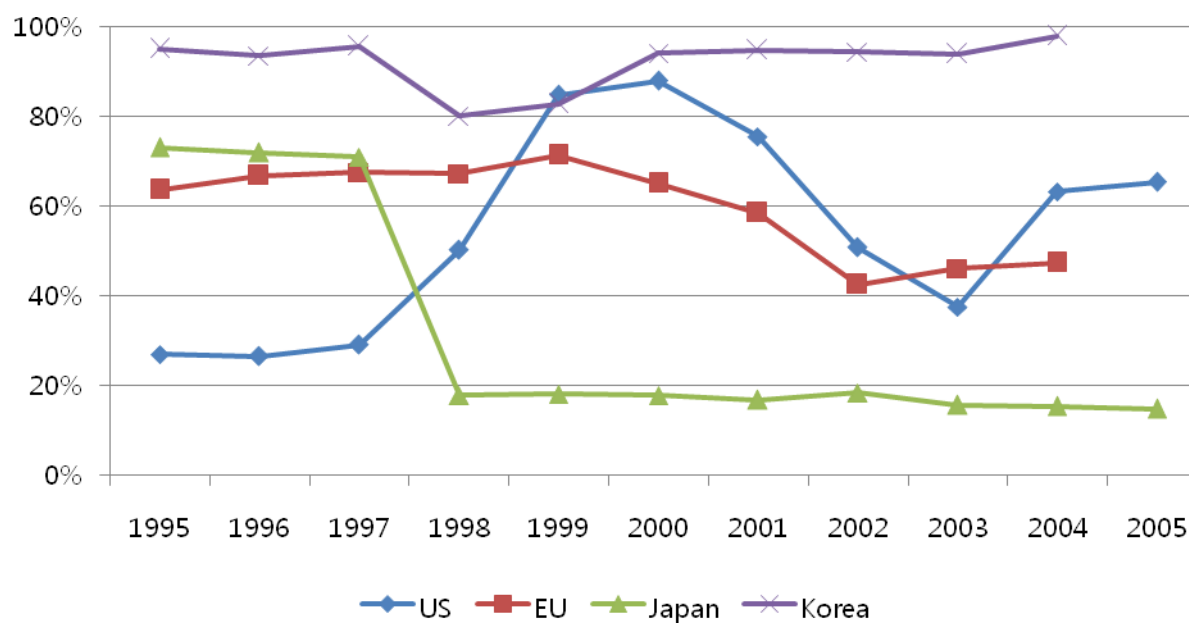
Figure 2 shows that the AMS use ratio, estimated by current total AMS over final bound total AMS ranks is larger than those by major countries. For instance, the European Union records 60 percent in average and the United States and Japan are averaged at 54 percent and 32 percent, respectively. The fairly high AMS use ratio suggests that little or no 'water' in the AMS made Korea face real cut in trade distorting support from the beginning of the URAA implementation. An early response from the government was to slim down rice support to comply with the reduction commitment. Because the product specific AMS for rice explained 97 percent of the current total AMS, it was unavoidable to reduce the support level.

Figure 1. Final Bound Total and Current AMS for Korea



Source: WTO (2007)

Figure 2. Changes in the AMS Use Ratio



Note: Current total AMS figures are estimates for the United States in 2005, and for Japan in 2004~05.

Source: Drawn from WTO (2007) and WTO (2006)

Since introducing the government purchase program in 1961, rice policy has changed a long way. But the essence of policy variants remains the same as stabilizing farm incomes, ensuring food security and managing supply and demand for the staple crop. Ahead of the URAA the long lasting rice policy was reformed in a way to abridge government direct intervention in 1993. This reform made up a cub on an increase in purchasing prices and widening price gaps across seasons.

The government had to meet the declining AMS limit in line with the country schedule under the URAA. As prices were gradually increasing, the amount of purchased rice had to be further reduced. Figure 3 highlights a continual escalation in prices coupled with a sliding down in purchase volumes. Over the 1995~2003 period, the government proposed three times (years) to raise, three times to freeze, and two times to cut the purchase prices. The National Assembly which had a right to approve government proposals responded with four times to freeze and six times to raise the prices. Because of political pressures and interests, the price rose by 26 percent offset by a 48 percent drop in volume in the URAA period. The fact contrasts sharply with the cases of Japan and the Republic of China which have continued to bring down or lock in the prices since 1990 (MAF 2007).

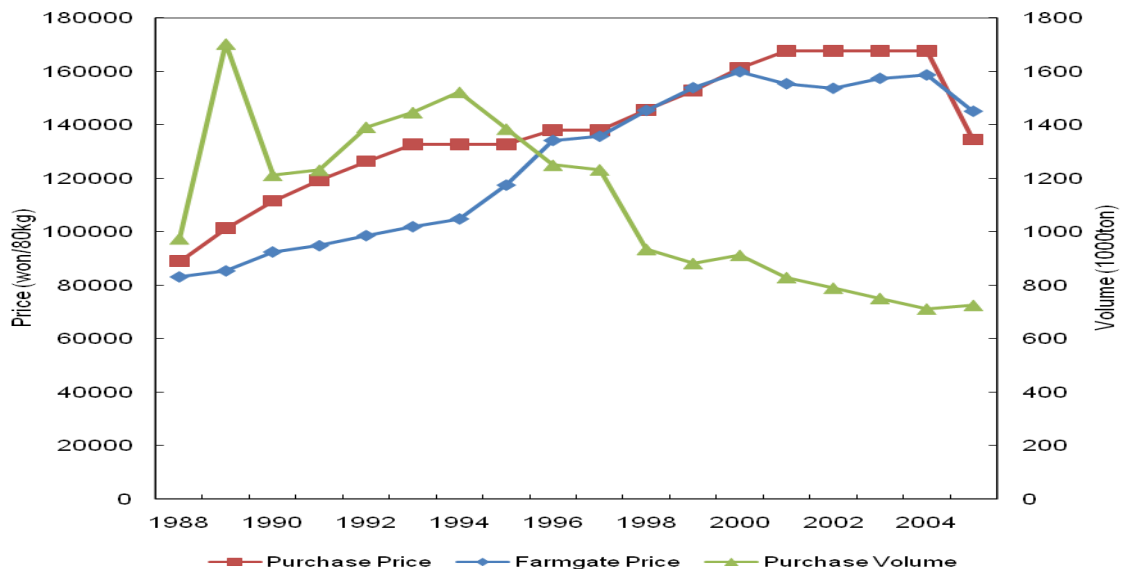
Sumner and Lee (2000) pointed out that dominance by rice in Korean agriculture and its import quota, not the internal support policy credited to the large AMS. Rice AMS can be decomposed by an internal gap and an external gap. The internal gap represents a difference between purchase and farm gate prices and the external gap refers to a difference between farm gate and fixed external prices. Then Figure 4 shows the external gap overwhelms the internal gap. Nonetheless an early reform in rice support policy would have contributed to an easy and effective reduction in the AMS.<sup>1</sup>

Kim (2003) claimed that government purchasing would not be sustainable because it had poor transfer effects on farm income and a diminishing role as a market price setter. He specifically asserted the direct income support effect of rice purchasing was only less than 9 percent of the government spending or accounted for smaller than 7 percent of the AMS during 1995~2002. In addition, the effectiveness of price and income support further challenged by a decline in the proportion of purchase quantities in total production from 29 percent in 1995 to 14 percent in 2004.

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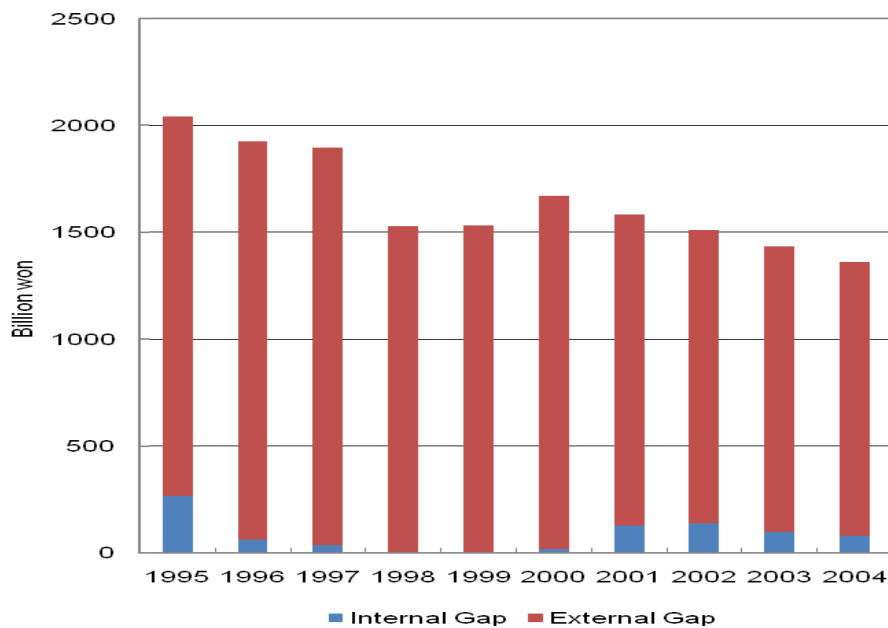
<sup>1</sup> From a political perspective, a substantial cut in rice support price in a short term would have not been feasible because of the likely strong resistance from farm communities. Interestingly enough, farmers wanted to have direct payments in the 1990s while they disliked doing away with the rice purchase program. Research on direct payments under the WTO system began by Lee et al. (1995) followed by a comprehensive study in Suh et al. (1996).

Figure 3. Changes in Rice Prices and Procured Volume



Source: MAF (2007)

Figure 4. Decomposition for Rice AMS



Note: These figures are not exactly match with the notified AMS because of using uniform prices for different types of rice quality.

Source: Drawn from MAF (2007)

The first direct payment program for rice farming was the Direct Payment for Rice Paddy Farming (DPRPF) in 2001.<sup>2</sup> In addition to support farm income, the DPRPF aimed to secure a multifunctional role of paddy fields and promote environment protection and safe food production. The reference area was the farmland used for paddy farming during 1998~2000. Eligible farmers must maintain the shape and role of paddy fields in good agricultural and environmental condition. The payment was subject to cross-compliance including a minimum standard for fertilizer use and pesticide residue. The payment rate was fixed at 0.53 million won per hectare in the Agricultural Promotion Area (APA) and 0.43 million won otherwise.<sup>3</sup> A maximum size of the payment area per farm was set at 4 hectares. Most paddy fields registered for the program and the aids amounted to 481 billion won in 2004.

To address potential loss of income for rice farmers the government launched the Income Deficiency Payment for Rice Farming (IDPRF) in 2002 (MAF 2003). Rice farmers kept a wary eye on over-supply, which was attributable to an increase in imports under the Minimum Market Access (MMA),<sup>4</sup> a dwindling volume of government purchase and a downward trend of rice consumption.<sup>5</sup> To guard against the threat of income insecurity, the IDPRF compensated part of income loss caused by a price decline. When a post-harvest farm gate price dropped below the reference price, an Olympic average of post-harvest farm gate prices for the previous 5 years, the program provides 80 percent of the gap to farmers. Farmers receiving the aid must deposit 0.5 percent of the reference price. About 16 percent of rice farms joined the program during 2002~04 but stable post-harvest prices in the period prevented from triggering the payment.

As specified in the URAA Korea renegotiated special treatment of rice in 2004 and agreed to increase MMA import from 4 percent in 2005 to nearly 8 percent of domestic consumption (408,700 tons) in 2014. China, the United States, Thailand and Australia obtained country-specific quota for the MMA. The growing concern for rise in import and the need for income safety nets amid AMS constraint and declining consumption contributed to an overhaul of rice policy in 2005.

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<sup>2</sup> The first direct payment program in the country is the Direct Payment for Early Retirement introduced in 1997. To facilitate large-scaled farming and provide income safety to retiring farmers, the program aims at 63~69-year-old farmers who sell or rent out their paddy fields for at least 5 years. The annual payment rate is about 3 million won per hectare up to 8 years in the case of selling farmland. Farmers renting out farmland receive one-time payment of about 3 million won per hectare. A maximum size of the payment area is 2 hectares.

In 1999, the Direct Payment for Environment-Friendly Farming started out as the second direct program. The aid rate in 2006 for organic paddy farming is 0.39 million won per hectare. About 20,780 hectares of farmland are registered in 2005. A pilot program for environment-friendly livestock farming is also introduced in 2004 aiming for reduction in livestock wastes and stock density rates. Up to 1,000 livestock farms are eligible to the program.

<sup>3</sup> The APA is zone-based farmland which has been improved by consolidation and rearrangement.

<sup>4</sup> In line with Annex V of the URAA Korea received special treatment of rice, non-tariffication along with MMA import up to 4 percent of domestic consumption for 10 years.

<sup>5</sup> Rice consumption per capita reduced from 107 kilograms in 1995 to 79 kilograms in 2006 (MAF 2007).



### 3. Making the Transition to Decoupled Income Payment

The key principles of rice policy reform in 2005 were targeting and decoupling. First, the reform immediately scrapped the 50-year-old government purchase program. Making transition from price support to decoupled income payment was unavoidable because of a looming WTO discipline for the AMS and deteriorating domestic market situations. Such a policy shift is expected to make room for policy flexibility given the fact that the rice purchase program made up almost all the AMS.

Second, the reform launched the Rice Income Deficiency Payment (RIDP) to provide farmers with ‘operative’ and ‘effective’ income safety nets. The RIDP consists of fixed payment and variable payment. The fixed payment succeeded the DPRPF as a decoupled measure from production whereas the variable payment inherited some characteristics of the IDPRF. Thus, the new RIDP is forged as an integrated version of previous support measures. Only difference is the new program embodies a target price system.

Third, the reform introduced the public stockholding program for rice to ensure food security. It is due to the abolition of the rice purchase program. Under the new scheme the government obtains and releases rice at current market prices. A target stock is predetermined at 0.87 million tons. The amount is approximately equivalent to a national food need for two months or 17~18 percent of domestic consumption as recommended by the FAO. The Annex V of the URAA recognizes the public stockholding program as a Green Box measure.

Figure 5 explains how the RIDP is structured and operated. For the 2005~2007 years, a target price is 170,000 won per 80 kilograms accounting for the average harvest price (158,000 won) during 2001~2003, and estimated income effects from the DPRPF (9,000 won) and government purchasing of rice (3,000 won).

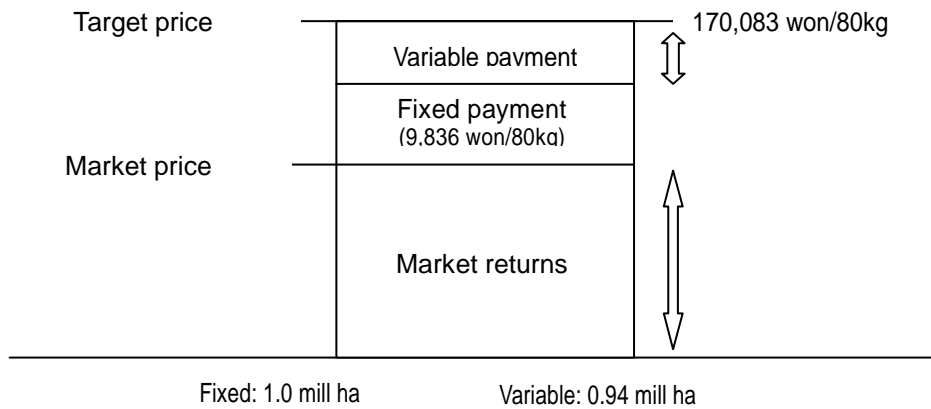
The target price is subject to change every three years accommodating the rate of change in average post-harvest prices between the initial period and last three-year period.<sup>6</sup> It is intended to embody recent changes in the market. But, the National Assembly has a right to approve the proposed target price.

The reference area is the paddy fields cultivated rice, lotus roots, dropwort, or sedges in the 1998~2000 period. Given stricter property right restrictions on the APA the payment rate for the APA is about 20 percent larger than others. In 2005 the APA represented 69 percent of the registered paddy fields under the fixed payment (MAF 2007).

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<sup>6</sup> The post-harvest season spans from October 1<sup>st</sup> to January 31<sup>st</sup>.

Figure 5. Structure of the RIDP in 2005



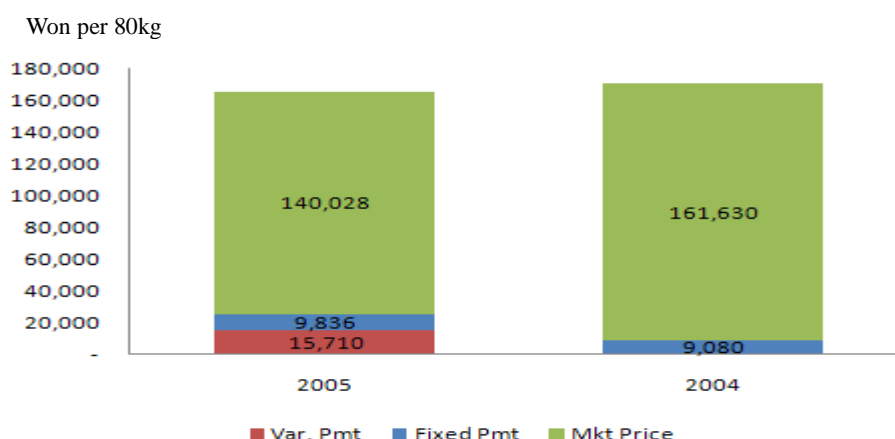
For the year 2005, the fixed payment rate was 600,000 won per hectare in average or 9,836 won per 80 kilograms of rice. The size of area reached at about 1 million hectares or about 93 percent of the total paddy fields. Cross compliance applies as follows. First, farmers must maintain and manage the field soil to the extent that crop production is possible. Second, farmers must set up and maintain field boundaries in good condition. Third, farmers must maintain and manage water canals and drains attached to the fields. Finally, farmers must take weed control so as not to disturb neighboring fields.

There are extra eligibility criteria for the variable payment. First, farmers must grow rice in standing water of the fields. Second, farmers must meet the standard for pesticide residues. Third, farmers must comply with the recommended use of chemical fertilizers. About 0.94 million hectares joined the variable payment program in 2005. The variable payment equals to the 85 percent of the gap between target and farm gate prices after the fixed payment.

$$\text{Variable payment} = (\text{TP} - \text{post-harvest average price}) \times 85/100 - \text{fixed payment}$$

Figure 6 explains how the RIDP functioned to ensure farm income in 2005. An average farmer received 140,028 won per 80 kilograms of rice from the market and 25,546 won as the fixed and variable payment totaling 165,574 won. Thanks to the program farmers bore only a 3 percent decline in final prices against a 13 percent drop in post-harvest prices during 2004~2005. The RIDP turned out to be effective to attenuate farm income loss against adverse market conditions.

Figure 6. Composition of Farm Income during 2004~2005



Note: The fixed payment in 2004 refers to the the Direct Payment for Rice Paddy Farming

The RIDP is nothing new as other countries maintain comparable mechanisms to protect farm income loss. Figure 7 highlights income support systems for the European Union, Japan, Korea and the United States, simplified for comparison. First, Korea and the United State have much in common with a target price system. But, rice is the only program crop in Korea. Japan puts forward reference production costs as support goals for barley, soybean, sugar beet and potatoes.<sup>7</sup> The target prices and reference production costs are all fixed in advance. The United States raised the target prices for the 2004~2007 period for most program commodities. It is not clear if Korea will forge into a cut in the target price in 2007. It is too early to say about Japan's program since it has just launched in 2007. The European Union has designated the target prices for grains as suitable price levels but they are not part of the CAP mechanism (USDA 1999).

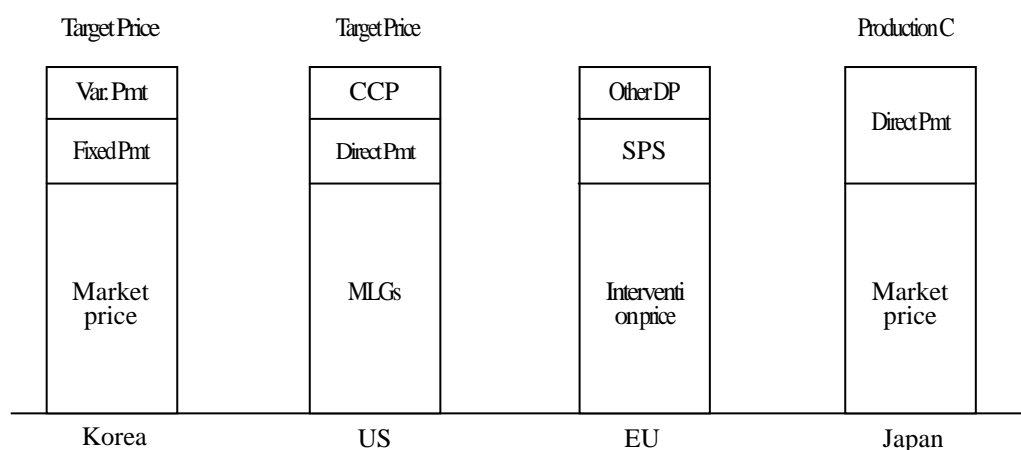
Second, an integral part of the income support system is the direct payment in all four countries. While Korea and the United States address farm income through commodity-specific payments, the European Union's Single Payment Scheme (SPS) deals with whole farm income. Japan's CSCMSP based upon a gap between production conditions is more or less similar to the whole farm approach.

The variable payment is also a common feature. The CCPs in the United States incorporate the difference between the target price and the effective price which is the sum of direct payments and the higher of the average market price or the loan rate. Similarly, Korea's variable payment deals with the gap between the target price and the sum of the market price and fixed payment. The European Union maintains some

<sup>7</sup> This new support system is called as the Cross-Sectional Commodity Management Stabilization Program (CSCMSP).

product-specific direct aids coupled with production.

Figure 7. Comparison of Farm Income Support Mechanisms



Note: Support mechanisms are simplified for comparison. Also, note that program commodities are not identical.

Finally, the European Union and the United States maintain price support measures as the intervention price and the loan rate, respectively. As a safety net, they provide floor prices for certain commodities. Since the 1992 CAP reform, intervention prices have been cut and have been partly replaced by the direct payment. The 2002 Farm Bill in the United States authorized to reduce the loan rates for many program commodities over the 2004~2007 period.

#### 4. Decoupling Tests

As is often the case in other countries, the lack of accurate data has deterred estimations of the impacts from decoupled income support in Korea. The Farm Household Economy Survey Report (FHESR) which provides yearly statistical information on 3,200 sample farm households has a single data entry for public subsidy encompassing all the government support. In addition, a rather short history of the decoupled payment impedes the progress of an in-depth analysis on the issue.

Using the FHESR data Kim et al. (2004) estimated the effects of the DPRPF on production. The public subsidy data included not only direct payments but also other subsidies including support for needy households, education and transportation for the elderly. But the research presumed the DPRPF would be of prominence in the data. The

samples were 715 rice farming households who earned at least 60 percent of agricultural income from rice production. The area for rice farming in 2002 regressed against one- and two-period lags of the area and the public subsidy. The regression resulted in the elasticity of public subsidy as 0.03.

Two reasons may explain such a low elasticity. First, it has something to do with comprehensive nature of the public subsidy data. Since the data embraces even non-agricultural subsidies its overall effect on production could turn out to be at most weak. Second, it might reflect fixity of paddy fields as a fixed asset and unique physical characteristics. Despite the data limitations, the empirical estimate implies the fixed payment is fairly decoupled from production.

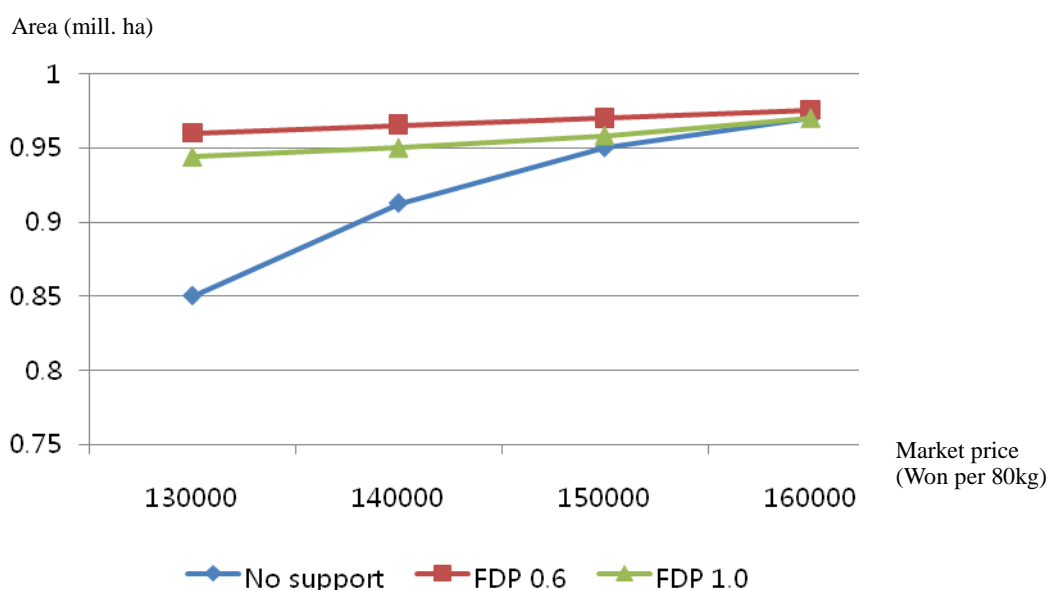
Sakong (2007) concludes the fixed payment of the RIDP has no effect on production. But when the variable payment is taken into account, the RIDP turns out to carry a relatively high level of production effects. The paper estimates total rice paddy fields based on 100 segregated farm household groups by production costs where a farm household decides farming areas by maximizing the expected utility.

Figure 8 shows how rice paddy areas would be changed by support levels and expected market prices of rice. Simulated results indicate the more market prices drop the greater the production effect is. As the fixed payment increases from 0.6 to 1.0 million won per hectare, the production effect becomes smaller than before. It is because the variable payment is reduced accordingly.

Adopting a similar utility function with uncertainties, Lee (2006) provides an analytical outcome the present form of the RIDP has a rather high production effect. He claims the degrees of decoupling ( $0 \leq DD \leq 1$ ) are respectively 0.303 and 0.367 against the expected market prices of 136,000 and 153,000 won per 80 kilograms. The estimates for production effects are slightly larger than those of Sakong (2007).

Some implications from previous studies can be summarized as follows. First, the fixed payment in the RIDP has no or at most a minimal effect on production. But it needs more robust analyses with accurate farm level data on direct payments and management decision. Second, an increase in the fixed payment does not necessarily raise expected income or bring about larger production effects because it replaces part of the variable payment. Finally, little coupling effects of the fixed payment could be qualified as a Green Box measure while the variable payment falls into the AMS.

Figure 8. Simulated Rice Paddy Areas with the RIDP



Note: FDP 0.6 and FDP 1.0 refer to fixed direct payments of 0.6 and 1.0 million won per hectare, respectively.

Source: Sakong (2007)

## 5. Conclusion

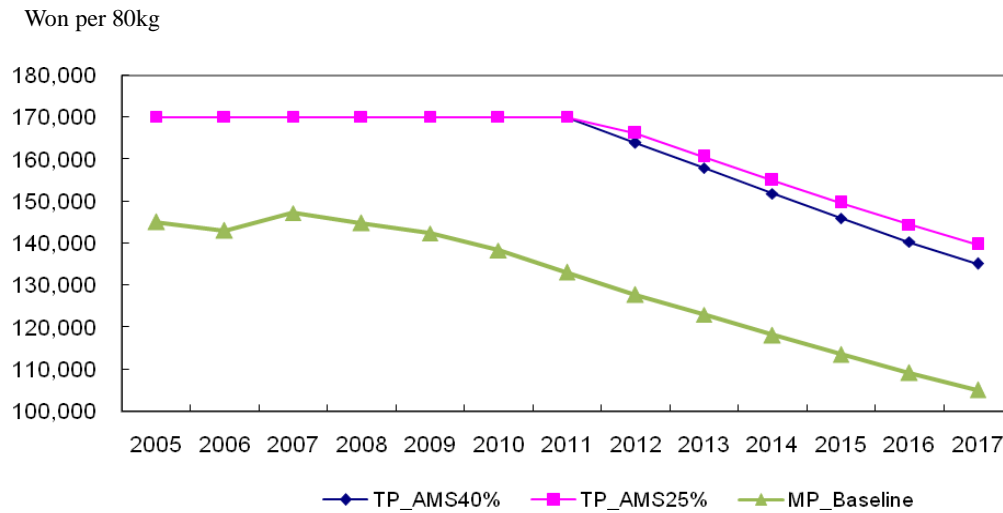
Ensuring continuity of the RIDP depends on changes in market conditions and upcoming WTO rules on domestic support. As by law enacted, a new target price for the 2008~2010 will be based on 2004~2006 average prices. But it is uncertain if the National Assembly will approve a 5.2 percent drop for the target price, 161,265 won per 80 kilograms of rice. Farmers and farm community are asking to keep the target price as it is.

Figure 9 shows the simulated target price when the AMS is assumed to be cut by 40 percent and 25 percent over the 10-year period. Given the baseline of post-harvest market prices and the same fixed payment, the target price must be below 140,000 won in 2017. The decrease in the target price reflects the variable payment is likely to be subject to the AMS ceilings.

To avoid a weakening income safety net, the government may opt to reinforce the fixed payment. Besides, replacing part of the variable payment with the fixed payment may contribute to structural adjustment and a reform process by motivating competition and farmland mobilization. The share of direct payments in agricultural budget accounts

for only 8 percent in 2004, which is far lower than those in Japan, the European Union and the United States (Kim et al. 2006). But the Korean government envisions greater use of decoupled income support. It also mulls over alternative farm income support systems such as a whole farm income based approach and farm saving accounts.

Figure 9. AMS Reduction and Target Price



Note: MP\_Baseline refers to the baseline for post-harvest market prices and TP\_AMS40% and TP\_AMS25% indicate target price levels matching with 40 percent and 25 percent cuts in the AMS, respectively.

Source: Lim et al. (2007)

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